

Attorney Docket No.: F2040(C)
Serial No.: 10/549,549
Filed: June 8, 2006
Confirmation No.: 3834

REMARKS

Reconsideration of the application is respectfully requested.

Claims 1-17 were rejected under 35 U.S.C. 103(a) as being unpatentable over Ganesan et al. (US 2001/0033880; R1); in view of Lunder et al. (US 4,440,796; R2).

The subject invention is directed to a process for manufacturing a cold water soluble black leaf tea comprising taking plucked tea leaves and subjecting them to the steps of optionally withering, macerating, fermenting and firing and drying where the process is characterised by the tea leaves being treated before fermentation or before mid-fermentation with a pH lowering agent followed by treatment during fermentation with ascorbic acid or salts thereof at mid-fermentation or thereafter in an amount that is sufficient for the black tea leaves to be infusable in water at 5 to 100 °C. Thus the present invention is directed to interventions at two stages of the black tea manufacturing process, at one stage with a pH lowering agent and at a second stage with ascorbic acid or salts thereof.

Applicants respectfully traverse the rejection. R1 (Ganesan et al) discloses a process to for manufacturing cold water soluble black leaf tea comprising macerating freshly plucked tea leaves, allowing them to ferment, firing the leaves to arrest fermentation and then drying them to yield black leaf tea, wherein the tea leaves are treated with a solubilising compound selected from ascorbic acid, dehydroascorbic acid, 1-scorbamic acid, 5-phenyl-3,4-diketo-gamma-butyrolactone (4-phenyl-2,3-diketo-gamma-butyrolactone) or their salts and mixtures thereof in an amount that is sufficient for the black leaf tea to be soluble in water at 5 to 100°C. The present invention differs, however, over R1 in at least that the present invention comprises

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an additional step of treating the plucked tea leaves with a pH-lowering agent prior to treatment with ascorbic acid or salts thereof. R1 does not disclose use of a pH lowering agent prior to treatment with ascorbic acid or salts thereof during the black tea manufacturing process. Furthermore, R1 teaches that ascorbic acid may be added at any stage – before, during, or after maceration (paragraph 33).

R2 (Lunder et al) discloses a process for the production of a cold soluble powdered tea extract wherein a hot soluble powdered tea extract is treated with a mixture of from 25% to 65% by weight of a carboxylic acid and from 15% to 65% by weight of a carboxylic acid salt based on the weight of the hot soluble powdered tea extract and ground to the desired particle size. Thus, the process disclosed in R2 is not directed to a process for manufacture of black tea leaves that is infusible in hot water or cold water from plucked tea leaves (which is the subject matter of the instant application) but is related to making a hot water soluble powdered tea extract into a form that is cold water soluble powdered tea extract. Further, it is respectfully submitted that the Examiner has erroneously pointed out in point 13 of the Office Action that “R2 discloses a process for the production of a cold soluble powdered tea extract by treating tea with carboxylic acids before fermentation (Abstract)”. In fact, the words “before fermentation” do not appear in the abstract. To clarify, it is noted that tea extract (whether hot water soluble or cold water soluble) is prepared from finished black tea which has already undergone the steps of fermentation, firing and drying. In conclusion, it is submitted that while the subject matter of R1 relates to a process for preparation of black tea leaves, R2 relates to a process for making a hot water soluble extract of black tea leaves into a cold water soluble form. Tea extract and tea leaf are very different from each other, in their nature and chemical composition.

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It is not seen how one of ordinary skill in the art would have been led to make R1/R2 combination and then to modify the combined teachings to specifically conduct ascorbic acid treatment at mid-fermentation or later, and then furthermore, conduct citric acid treatment specifically before mid-fermentation. The combined teachings of the references would not have resulted in a specific combination and order of steps presently claimed.

Applicants' examples in the specification provide ample evidence of the criticality of the treatment with both pH-lowering agent (e.g. citric acid) and ascorbic acid in the specific order of steps. For the Examiner's convenience, applicants summarize here the examples that were detailed in the specification.

Examples	Acid	Time-point
Comparative A	none	none
Comparative B	ascorbic	mid-fermentation
Comparative C	citric	before fermentation
Comparative D	citric ascorbic	after mid-fermentation before fermentation
Comparative E	mixture of citric and ascorbic	before fermentation
Comparative F	mixture of citric and ascorbic	mid-fermentation
Example 1	citric ascorbic	according to invention

The results can be seen in Tables 1, 2 and 3 at pages 15-17 of the specification. It is evident from the results that treatment with both pH-lowering agent (e.g. citric acid) and ascorbic acid is critical and that the relative points of addition of citric acid and ascorbic acid in the process are also critical.

In light of the above amendments and remarks, it is respectfully requested that the rejection be withdrawn and the application be allowed to issue.

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If a telephone conversation would be of assistance in advancing the prosecution of the present application, applicants' undersigned attorney invites the Examiner to telephone at the number provided.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Rimma Mitelman", written over a horizontal line.

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